

**MULTIPARALLEL THREE DIMENSIONAL OPTICAL  
MICROSCOPY SYSTEM  
ABSTRACT**

5 A system for imaging of a sample is disclosed. The system includes a plurality of detectors which are each focussed at a respective focal plane in a sample volume. The system also includes light selection optics positioned between the plurality of detectors and the sample volume. The light selection optics transmit to the detectors a portion of light originating at the respective focal planes while  
10 screening out light which originates from outside of the respective focal planes.